Notebook, N-87-12-08.1

This notebook covers the period December 1887-April 1888. It was used by Edison and Erwin Von Wilmowsky for notes regarding chemical orders and the preparation of compounds, primarily for use in lamp filament and insulation experiments. The front cover is labeled "Order Book E.W. Dept." The spine is labeled "41." The book contains 25 numbered pages. Eight loose pages have been inserted into the book.

XE-172 N-87.12.08

Order Book

for

E. Wilmowsky's Dpt.

Orange Dec 8th 1887 — 1

Prepare carbon 1/2 lb each kind by the dehydration of organic materials using Sulphuric acid, Chloride Zinc Phosphoric anhydride, Potassium and Hydrofluoric acid — using say 2 oz cotton make 1/2 lb Carbon by the use of Sulphuric 1/2 lb by using ChlZn 150 oz —

Then use following cane sugar, milk sugar, grape sugar, Dextrin, Glucose, Tragacanth, Cork, Linseed oil, Olive Oil, Carnauba Wax, White Wax, Rosin, Boxwood sawdust, Linen paper, Albumen from Egg, Gelatin, Aniline Violet, Pyrene, anthracene, Glycerine

Wash the black carbon in hot water or other solvents until it is practically free then dry to powder put in bottle + label it for instance

" Carbonaceous matter from dehydration of Colton by SO_4 —
etc etc —

Make 3 oz Monosulphide Carbon. [illegible]

Make 5 lbs pure Zirconia
" 1 " " Yttria
" 1 " " Lanthanum
" 1 " " Cerium
" 1 " " Thorina
" 1 " " Didymium
1 " " "
I will have ore obtained when you come

Make 4 oz of syrupy solution of acetates, ~~[illegible]~~ of Lime, Magnesia Alumina, Zirconia, Yttria, Thorina, Lanthanum, Cerium, Didymium,

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Make 1 oz "Colophthalm" see Watts Dictionary 3rd Supplement, page 1746. (This) (8)

Make. 1 lb
Phenylnapthol-Carbazol.
$C_{16} H_{11} N$. Hunny

Make 1 oz Gallin.
" 1 oz Hydracrylamic acid.
" 3 oz Iodide Carbon
" 1 lb Tetrachloride Carbon
" 3 oz Tri-bromide of Silicon, Watts 2nd Sup page 1086 This
" 1 oz Carbamide of Silver This
" 1 oz Bromide of Zirconium This
" 1 oz Tetriodide of Silicon This
" 1 oz Sesquiodide " This
" 1 oz Amonio-Chloride of Boron This
2 lbs of Tar obtained from passing Chlorine gas through aniline oil
3 oz Picramic acid
3 oz Cyanilline
6 oz Azulmic acid
3 oz Comenic acid — See Gmelin
3 " Comenate of Ammonia "

Make 3 oz Mucic acid,

3 oz Saccharic acid

6 oz Pentacarbon Bisulphide, Watts Dic 2nd Supplement p 265

3 oz Phlorizeïn — see Gmelin Vol X p 17

3 oz Rubian — see Gmelin Vol X p 35

3 oz Rubianin " " p 56

3 oz Convolvulin " " p 154

3 oz Cyclamin " " p 200

3 oz Carthamin " " p 202

3 oz Bi-hydrosulphate of Cyanogen

6 oz Hydrocyanate of Titanic Chloride. This see Gmelin 2nd Vol 148.

3 oz Sulphide Stilbene — see Gmelin Vol 6 p 169

3 oz Saliretin, see Gmelin Vol 6 p 231

3 oz Sulphanesolide " p 262

3 oz Sarthydramide " p 345

3 oz Japonic acid " p 394

6 oz Mellitic acid Vol 4 p 1 Gmelin

Make 3 oz Paramide Vol 4 p16 Guichi 9
3 oz Creatine " p252 "
~~2 oz Iodide of Cyanogen~~ Can 88
" 3 oz Haemaphein
6 oz Haematein
1 lb Haematoxylin
3 oz Hederic acid
1 lb Mulders horny vegetable albumen
6 oz Glyoxaline
6 oz Phenyl. Diethyl, Azonium. see Watts Dic 3rd Sup part 2nd page 1057
1 lb Solid Ditolyl
3 oz Kinoin, See Watts 3rd Sup 2nd pt p 1157
10 grms Nitride Magnesium, see Watts 3rd Sup part 2nd page 1246 —

Next orders see page 17-21
Thereafter page 11-15

30/3 SB 11

Pentachloride Phosphorous forms with Guairotic acid a tenacious resinous mass

Watts G - 949 -

Luteolin is like Metagallic acid - Watts Vol 3 736

Morin

Ammoniacal Munjistan

Watts Vol 2 1862

Gentisic acid $C_7H_6O_4$

Like Melogallic

20/3/77

Melassic acid a jet black acid soluable in alkalis made from treating glucose with caustic alkalis high temperature Watts 3 – 868

Perchloromesol. C_4Cl_6 – Melts 390 C Watts 3rd Supplement pg. 1506 Insoluble

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Quinyl Oxide Saffans at 100 Watt 3 supplement 1744

Silk dissolves in alkaline glycerine Copper Solution – & precipitated as a gelly by HCl – Copper Solution is prepared by dissolving 16 grammes pure Crystalized Cupric Sulphate in 140 to 160 grammes Water – then adding 8 to 10 grammes pure glycerine & heat

30/3/88.

gravity of 1.24 + dropping in Soda lye until Copper is dissolved

Hexabromobenzene. C_6Br_6
melts 300°

Octochloronaphthalene $C_{10}Cl_8$
melt 203 —

Next Orders see page 23.

Jan & Feb '88 } Orders given on labels
Mins } (copied verbally by E.M.)

2 oz Iodide of Sulphur
1 oz Phosphide of Hydrogen
Have we any metagallic acid, if not make 2 oz.
3 oz Tribenzoylene $C_{24}H_{12}O_3$
Watts Dic 3rd Supplement page 2041.
Does not melt at 450 Cent.
Have we any Isatin if not make 2 oz.
6 oz Lactic Anhydride
If we have no Leptomin make 2 lbs

Tetra Sulphide Lead
3 oz Gentianic Acid (440°C)

Feb 17 '88

Make 3 oz solid Phosphide of Hydrogen
6 oz solid waxy Sulphuric Anhydride
perhaps we have some of this in sealed tube.
6 oz Hydride of Copper Cu_2H_2
6 oz Phosphide of Tungsten

26. feb. 88 19

Ulmic Acid
Solid Bromide of Boron Compounds
~~(Silicon ?)~~
Chlorocarbonate Lead (horny) or Oxychloride
Bibrate of Ethyl 2 parts ether in solution 50 Ethylene may
11 Chloroform may change a decomposed
22.00

20. feb. 88

3 oz Naphthoic Acid
6 gramm Nitride Iridium
6 oz Oleate of Mannityl
6 oz Mannitic Palmitate
1 lb Pectic Acid
3 oz Pectate Lead
1 oz Aniline Oil acted on by
Acraleine so it dries to a
varnish - Watts, N 457 -
3 oz Phosphide of Chromium
3 oz " " Lead
3 oz Hexametaphosphate Lead
3 oz Phosphate of Titanium

o 26. March '98

Lutealin
Lethixanthin
Lasylic acid
Methylamin
from Cyanide of Hydrogen by Elec
Hydrolysis (Zinc Carbon electrodes)
Tetrabromoquinone
Chinone
Pyruvil soluble alkalies
decomposes without fusion
Gentisic Acid
Gelatin etc for Insulator

Next orders see pag 11-15

18. April 79

Watt 3. 2. 277-279: Oxybenzoic Acid and other Ulmin compounds

Dextrin heated to a dark red powder (Ulmic Acid).

Humus substances and their gelatin and metallic salts see Gmelin

Oxybenzoyl (Watt I 478) and Ulmic Acid Gmelin sub "Oxybenzoide" and ff. pages

Imabenzile

Ricinolamide (Castor oil and dry Ammonia).

19. April 79

Pyroxantrimide C_5H_2NO

dissolves 6 I part PbO with $5\frac{1}{2}$ H_2O

its lead salt is excessively alkaline

dries up to gummy mass & gelatinizes ~~filter~~ paper so it cannot be filtered

Watt IV 275

Japonic Acid from Pyrogallic Acid and from Catechin (Gmelin).

Bamboo fibres in Linseed Oil heated to certain temperature turns to be elastic.

Cuprammonium - Cellulose + Ammonium - melissate mixed and dried to form Cellulosemelissate or nitrate.

Cellulose + KOH to be fused

Catechu - nitric acid

Deppels Bone Oil contains chiefly Amines (Methyl to Amyl amines)

Catechu + white Gelatin diss^d in Amm.

[ITEM FOUND IN BOOK]

~~See book before~~ 1

Wilmanski –

Make 2 oz Iodide of Sulphur
1 oz Solid Phosphide of Hydrogen
Have we any Metagallic acid if not make 2 oz –
3 oz Tribenzoylene. $C_{27} H_{12} O_3$ - Watts Dic 3rd Supplement page 2041. Does not melt at 450 Cent
Have we any Lactin if not make
2 oz
6 oz Lactic Anhydride
If we have no Legumin make
2 lbs –

Tetra Nitrate Lead
3 oz Gentianic Acid

[ITEM FOUND IN BOOK]

From the Laboratory
of
Thomas A. Edison.

Orange N.J. Feby 17 1888

Wilmerding

Make 3 oz Solid Phosphide of Hydrogen —

6 oz Solid waxy Sulphuric Anhydride – perhaps can have some of this in a sealed tube;

6 oz Hydride of Copper Cu_2H_2

6 oz Phosphide of Tungsten

26. feb

Nitric Acid

Solid Bromide a Bromo Compounds

Silicon

Chloracetamide Lead (Amorphous)

[ITEM FOUND IN BOOK]

Wilmowski — Feby 20/58

3 oz Napthionic acid
6 grammes Nitride Niobium
6 oz Oleate of Mannityl
6 oz Mannitic Palmitate.
1 lb Pectic acid —
3 oz Pectate Lead
1 oz Aniline Oil acted on by acrolein so it dries to a Varnish — Watts IV 457 —
3 oz Phosphite of Chromium —
3 oz " " Lead
3 oz Hexmetaphosphate Lead —
3 oz Phosphate of Thallium —

Ethylic ether — 14

~~Ethl~~ Ethyl is a glass which is soft at 50 Centigrade — may be drawn in threads it decomposes at 300 C

[ITEM FOUND IN BOOK]

5

Tetrabromdehydroxyquinone

Myricylic Alcohol

Pyvuril -

soluble alkalis

decomposes without fusion

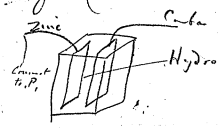
Lutetolin

Ledixanthin

Lasylic acid

Methylamine

Cy H (Zn C electrodes)



6

Tolulendiamine	4 50	100	g
Amylamine	$8.	per 100	grams
Benzylamine	4 —	10	"
Trimethylamine	9 50	100	
Cinchoramine	15 00	100	"
Tetramethylamine 33 %	75 c		grams
Cyclamine	3 50	100	
Diethylamine	1 85	100	grams
Dimethylamine anhy	5 50	100	"
33 pct Sol.	7 50	10	grams
Diphenylamine	5 00	100	"
Hydroxylamine	1 30	2	lbs
Methylamine anhy	21 00	per 2	lbs
33 pct Sol	6 00	10	grams
Methyldiphenylamine	3 00	100	grams
Naphthalamine	5 00	2	lbs
Nitrodiphenylamine	0.75 c	2	lbs
Phenylendiamine meta-	1 50	100	grams
Propylamine	6 00	100	"
Thiosinamine	3 50	2	lbs
	3 00	100	g

[ITEM FOUND IN BOOK]

7

4 lbs Syrian Asphalt.
dissolve in Benzol – same residue
which is No 1.

This residue is to be dissolved in Bisul Carbon
and this distilled off – toasted – This
will give you ultimate residue – Bisul C
residue.

To ~~this~~ Benzol solution – distill
off Benzol until residue is mushy
Treat this in gasolene – distill
gasolene & mark residue gasoline
residue – To original Benzol
residue ~~treat~~ with ~~Ether~~
Alcohol distill alcohol off
& mark residue alcohol Residue
Go on with Ether, Cold Turpentine,
Chloroform, Bisulphide of Carbon,
Then the final residue will
be the last Benzol residue

8

Pyrotartrimide
$C_5H_7NO_2$ – its Lead
salt is exceessively
alkaline –
get disolves 67 pct of
PbO. with 5 pct H_2O
dries up to gummy
mass & gelatinizes
paper so it cannot be
filtered –
Watts Vol 4 page 775